

## Suggested Resources for Science Curriculum and Assessment Projects

### DESE Curriculum and Assessment Documents:

<http://www.dese.mo.gov/divimprove/curriculum/newwebpages/science.html>

- “Missouri Show Me Standards” (DESE)
- “Missouri Grade Level Expectations for Science” (DESE)
- “Performance Event Templates for the Science MAP Assessment – Elementary, Intermediate, Secondary Levels” (DESE)
- “Concepts of Measure and Statistical Analysis Necessary for Mastery of the Science Grade Level Expectations” (DESE)
- “Exemplary Responses and Examples of Common Errors found on the Performance-Based Section of the Elementary -, Intermediate- , and Secondary-Levels of the Science MAP Assessment” (DESE)
- “Alerts to Student Difficulties and Misconceptions in Science” (adapted by DESE)
- “The Learning Cycle as a Tool for Planning Science Curriculum” (adapted by DESE)
- “Science Learning Experiences using the 5-E Learning Cycle” (adapted by DESE)

### National Curriculum and Research in Science Education Resources:

- *National Science Education Standards*, National Research Council (available online <http://www.nap.edu/catalog/4962.html>)
- AAAS Project 2061: *Benchmarks for Science Literacy* (this is online <http://www.project2061.org/publications/bsl/online/bolintro.htm>)
- AAAS Project 2061: *Atlas of Science Literacy* (may be purchased from AAAS <http://www.project2061.org/publications/OrderAtlas.pdf> or NSTA <http://store.nsta.org/showItem.asp?product=PA001X&session=DF9CCE665CA344AD829FC6F6E3F29E42>)
- *How students learn science*, National Research Council (available online <http://books.nap.edu/catalog/11102.html>)

- Driver, R., Squires, A., Rushworth, P., Wood-Robinson, V. (1994). *Making sense of secondary science: Research into children's ideas*. Routledge.
- Stepan, J. (1994). *Targeting students' science misconceptions*. FL: Idea Factory.
- Gilbert, Steven, & Irton, Shirley (2003). *Understanding models in earth & space science*. Arlington, VA: NSTA.

### **Resources for Learning Cycle, Inquiry, and Questioning:**

- *Inquiry and the National Science Education Standards: A guide for teaching and learning*, National Research Council (available online [http://bob.nap.edu/html/inquiry\\_addendum/notice.html](http://bob.nap.edu/html/inquiry_addendum/notice.html))
- Cothran, Julia H., Giese, Ronald N., & Rezba, Richard J. (2000). *Students and research: Practical strategies for science classrooms and competitions*. Dubuque, IA: Kendall/Hunt
- Jorgenson, O., Cleveland, J., & Vanosdall, R. (2004). *Doing good science in middle school: a practical guide to inquiry-based instruction*. Arlington, VA: NSTApress.
- Llewellyn, Douglas. (2002). *Inquire within: Implementing inquiry-based science standards*. Thousand Oaks, CA: Corwin Press, Inc.
- Llewellyn, Douglas. (2005). *Teaching high school science through inquiry*. Thousand Oaks, CA: Corwin Press, Inc.
- Walsh, J. A., & Sattes, B. D. ((2005). *Quality questioning: Research-based practice to engage every learner*. Thousand Oaks, CA: Corwin Press, Inc.

### **Resources for Reading and Writing in Science:**

- Campbell, Brian, & Fulton, Lori. (2003) *Science notebooks: Writing about inquiry*. Portsmouth, NH: Heinemann Educational Books, Inc.
- Barton, M. L., & Jordan, D. L. (2001). *Teaching reading in science: A supplement to the second edition of Teaching reading in the content areas teacher's manual*. Aurora, CO: Mid-continent Research for Education and Learning.
- Saul, E.W., Reardon, J., Pearce, C., Dieckman, D., & Neutze, D. (2002) *Science workshop: Reading, writing, and thinking like a scientist*. Portsmouth, NH: Heinemann